IN THE CLAIMS:

1. (Original) An apparatus for depositing a metal layer onto a substrate, comprising:

an electrochemical deposition cell having an electrolyte inlet in fluid communication therewith;

an electrolyte fluid reservoir in fluid communication with the electrochemical deposition cell via a fluid delivery conduit; and

at least one activated carbon filter in fluid communication with the fluid delivery conduit, the at least one activated carbon filter being configured to have an affinity for degraded organic plating additives.

2. (Original) The apparatus of claim 1, further comprising a control valve disposed in the fluid delivery conduit, the control valve being configured to direct at least a portion of an electroplating solution traveling through the fluid delivery conduit to the at least one activated carbon filter.

3. (Original) The apparatus of claim 2, wherein the control valve is configured to direct a portion of the electroplating solution through the at least one activated carbon filter sufficient to remove an amount of organic additives from the portion of electroplating solution per unit time equal to a calculated value of organic degradation per unit time.

4. (Original) The apparatus of claim 1, wherein the at least one activated carbon filter is configured to remove between about 2 percent to about 10 percent of degraded organic additives from the electroplating solution.

5. (Original) The apparatus of claim 1, wherein the at least one activated carbon filter is configured to remove between about 2 percent and about 10 percent of organic additives from the electroplating solution per 200 amp hours.

6. (Original) The apparatus of claim 1, wherein the at least one activated carbon filter is configured to have an overall effectiveness of between about 60 percent and about 95 percent.

7. (Original) The apparatus of claim 1, further comprising an electroplating solution replenishment system configured to replenish organic plating additives in an amount equal to a calculated rate of organic additive degradation.

8. (Original) The apparatus of claim 1, wherein the at least one activated carbon filter is between about 60 percent and about 95 percent efficient at removing degraded organic material traveling therethrough and wherein the activated carbon filter is positioned to receive between about 2 percent and about 10 percent of a total flow of electrolyte solution.

9. (Original) The apparatus of claim 1, wherein the at least one activated carbon filter further comprises two or more activated carbon filters positioned in parallel orientation and being configured to selectively receive at least a portion of a total flow of electroplating solution.

10. (Original) A method for depositing metal on a substrate, comprising:

providing a substrate having a seed layer disposed on a surface thereof;

disposing the substrate in an electroplating solution;

flowing at least a portion of the electroplating solution through an activated carbon filter, the at least a portion of the electroplating solution being a fluid volume sufficient to remove an amount of organic additives from the electroplating solution that is equal to a calculated rate of organic additive degradation; and

flowing the electroplating solution to the substrate.

11. (Original) The method of claim 10, wherein the activated carbon filter is has an affinity for electroplating solution organic additives.

12. (Original) The method of claim 10, further comprising flowing an amount of electroplating solution through the activated carbon filter sufficient to remove between about 2 percent and about 70 percent of the degraded organic additives per day.

13. (Original) The method of claim 10, further comprising flowing an amount of electroplating solution through the activated carbon filter sufficient to remove between about 2 percent and about 10 percent of the of organic additives per day.

14. (Original) The method of claim 10, further comprising replenishing organic additives downstream of the activated carbon filter in an amount equal to the calculated rate of organic degradation in the electroplating solution.

15. (Original) A method of controlling organic plating solution additive degradation in an electroplating solution, comprising passing at least a portion of the electroplating solution through at least one activated carbon filter having an affinity specifically configured for plating solution organic additives.

16. (Original) The method of claim 15, wherein the electroplating solution is passed through the activated carbon filter at a rate sufficient to remove the plating solution organic additives from the electroplating solution in an amount equal to the rate of organic additive degradation.

17. (Original) The method of claim 15, wherein the electroplating solution is passed through the activated carbon filter at a rate sufficient to remove between about 2 percent and about 10 percent of the plating solution organic additives from the plating solution per day.

18. (Original) The method of claim 15, wherein the at least one activated carbon filter is configured to remove between about 60 percent and about 90 percent of the plating solution organic additives passed therethrough.

19. (Original) The method of claim 15, wherein the at least a portion of the electroplating solution comprises between about 2 percent and about 10 percent of a total flow of the electroplating solution.

20. (Original) The method of claim 15, wherein the activated carbon filter comprises at least two activated carbon filters in a parallel configuration, the at least two activated carbon filters being configured to collectively receive between about 2 percent and about 10 percent of a total flow of the electroplating solution and collectively filter between about 60 percent and about 90 percent of plating solution organic additives therefrom.

21. (Original) A method for removing degraded organic additives from an electroplating solution, comprising capturing at least a portion of an electroplating solution stream traveling between an electroplating fluid reservoir and an electroplating deposition cell, and then flowing the portion of electroplating solution through an activated carbon filter having an affinity for plating solution organic additives.

22. (Original) The method of claim 21, further comprising flowing a portion of the electroplating solution through the activated carbon filter in an amount sufficient to remove an amount of plating solution organic additives from the electroplating solution equal to a calculated rate of organic additive degradation.

23. (Original) The method of claim 21, further comprising flowing an amount of electroplating solution through the filter sufficient to remove between about 2 percent and about 10 percent of the organic additives per day.

24. (Original) The method of claim 21, further comprising replenishing organic additives downstream of the filter in an amount equal to the calculated rate of organic degradation in the electroplating solution.